



**INJURY PREVENTION PRACTICES AMONG
NEW JERSEY ADULTS:
1991 - 1995**



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Physical injury is a leading cause of morbidity and mortality throughout the United States. In New Jersey, injury (i.e., intentional and unintentional injuries combined) is currently the fourth leading cause of death and a leading cause of premature death in particular, contributing about 20% of the total years of potential life lost (YPLL) before age 65¹. The direct cost of hospitalizations for injury in New Jersey has been conservatively estimated to be over \$800 million per year (Center for Health Statistics, unpublished data). In addition, it has been estimated that injuries contribute to about 20% of all disability in New Jersey, with an annual cost of over \$1 billion in lost output and earnings².

About one-third of all injury deaths in New Jersey are classified as intentional (i.e., either homicide or suicide) and of these, about 40% involve firearms. Unintentional injury deaths in New Jersey, however, most often involve motor vehicles (about 40%), followed by drug overdoses and other poisonings (about 25%), falls (about 15%), and fires (about 4%). While most injury-related deaths in general occur among younger adults, and homicides in particular disproportionately affect young adults, unintentional injury deaths (particularly those related to falls and motor vehicle crashes) and suicide deaths occur disproportionately among elderly individuals¹.

The New Jersey Behavioral Risk Factor Surveillance System (BRFSS) provides an opportunity to estimate directly the prevalence of certain injury prevention practices among adults in New Jersey. To date, the behaviors measured consistently over time have included seat belt use and drinking and driving. In 1995, questions were added concerning bicycle helmet use (in children), safety belt use (in children), testing of smoke detectors, and firearm safety.

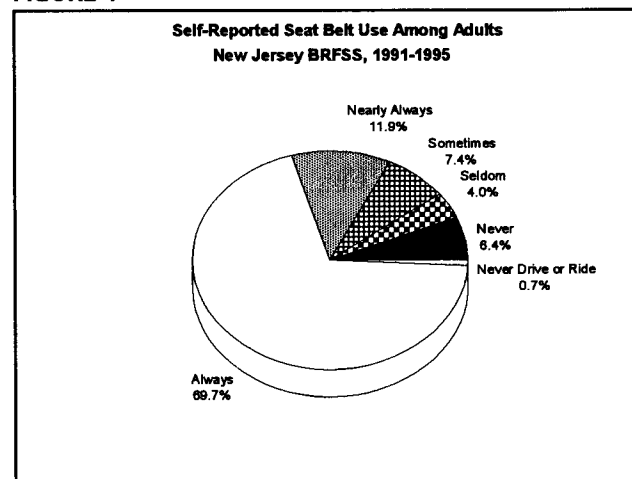
NOTE: The New Jersey Behavioral Risk Factor Surveillance System is part of the national Behavioral Risk Factor Surveillance System, a telephone survey of adults aged 18 years and over. This survey is designed to monitor modifiable risk factors for chronic diseases and other leading causes of morbidity and death. The survey is a cooperative effort between the national Centers for Disease Control and Prevention (CDC) and all states, the District of Columbia, Puerto Rico, Guam, and the U.S. Virgin Islands. It has been in existence since 1984. The New Jersey Department of Health and Senior Services has been participating in the survey on a monthly basis since 1991, conducting approximately 125 interviews per month. General design features and limitations of the BRFSS have been discussed elsewhere.^{3,4}

Seat Belt Use

Non-use of seat belts has been identified as a major factor contributing to the risk of severe injury and death resulting from motor vehicle crashes. One estimate suggests that, as of 1991, about 20% of the nation's car occupant fatalities could have been avoided by the use of seat belts⁵. Estimates of seat belt use from the BRFSS based on self-reports of "always" or "nearly always" using a seat belt have typically exceeded estimates of seat belt use from observational studies by approximately 10-40%⁶, which probably reflects in part the fact that BRFSS estimates are not weighted to take into account the amount of time an individual spends riding or driving. Nevertheless, these data may be useful to monitor trends.

Nearly one-third of New Jersey's adult population do not use seat belts consistently, and more than five percent do not use them at all when driving or riding in a car, according to the BRFSS (Figure 1). The estimated proportion of persons using seat belts only "sometimes, seldom, or never" during 1991-1995, on average, was 18% (16.7%-18.8%)*, which is slightly lower than the median value of 20.8% for all reporting states and the District of Columbia in 1993⁷.

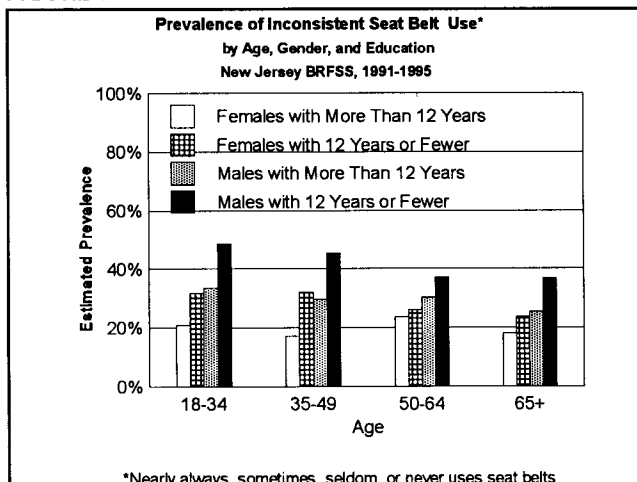
FIGURE 1



Seat belt use among New Jersey adults varies substantially by education and gender at all age levels (Figure 2), with an estimated 43% (40.0%-46.6%) of males with 12 years of education or fewer reporting that they do not always use seat belts, compared with an

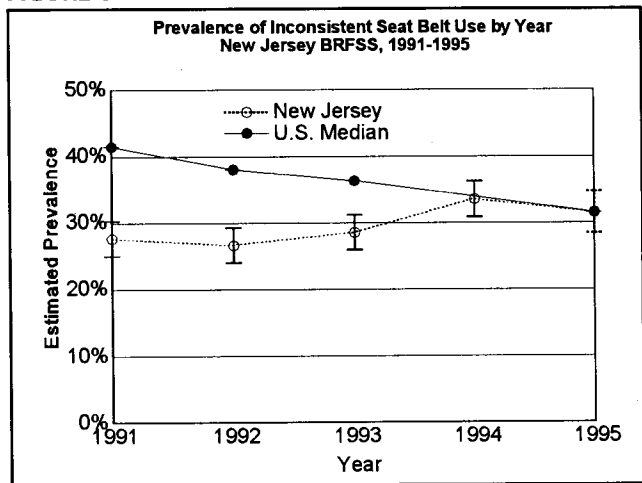
estimated prevalence of 20% (18.1%-21.7%) among females with more than 12 years of education. Multivariable analyses suggest that marital status and health insurance are also associated with patterns of seat belt use, independent of age and education. In particular, persons who are not currently married and persons who do not have health insurance tend to report less consistent use of seat belts than other persons.

FIGURE 2



There is no evidence from the New Jersey BRFSS of any general increase in seat belt use in recent years, despite an overall trend towards more consistent usage at the national level (Figure 3). This is concordant with evidence from observational surveys showing a usage rate which has leveled off at around 60%⁸, as well as data showing that the number of motor vehicle occupant deaths has been fairly constant over this same time period (1991-1995), averaging around 580 deaths per year⁹.

FIGURE 3



Of adults who have children under age 5, an estimated 96% reported in 1995 that their oldest child in this age group "always" or "nearly always" uses a safety seat when riding in a car. This estimate is comparable with the value

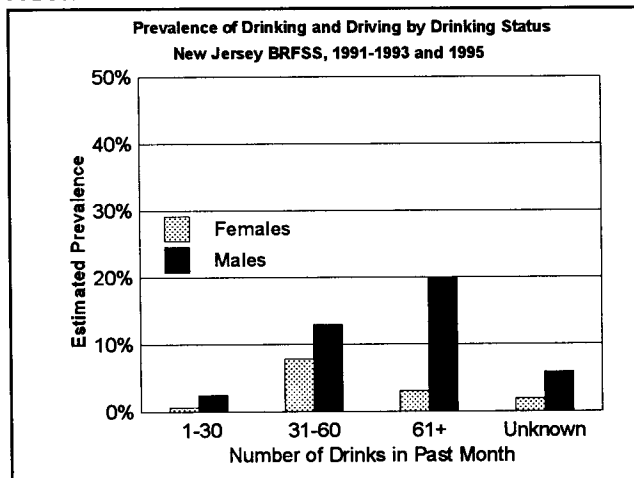
of 96.5% reported as the median for all states in the same year. Of adults who have children aged 5-15, an estimated 89% reported that their oldest child in this age group "always" or "nearly always" uses a seat belt when riding in a car. This estimate is also comparable to the median value of 89.2% reported for all states in 1995¹⁰.

Drinking and Driving

Alcohol has been identified as another major factor contributing to the risk of death and disability from motor vehicle-related injuries. The risk of crashing has been shown to increase exponentially above a driver blood alcohol concentration of 0.05%¹¹. In addition, a substantial proportion of pedestrian and pedal cycle fatalities involve use of alcohol by the victim. In New Jersey, approximately 30% of all traffic fatalities are alcohol-related¹². The extent of drinking and driving is probably grossly underestimated by the BRFSS¹³ and state-specific prevalence estimates do not correlate well with the proportion of driver fatalities which are alcohol-related¹⁴. Nevertheless, these estimates may serve to identify sociodemographic patterns and time trends for program planning purposes.

The proportion of New Jersey adults who had driven after having too much to drink one or more times in a given month according to the BRFSS was estimated to be 2%, on average, during the years 1991-1993 and 1995 combined. This figure is comparable to the median value for all reporting states during those same years, which ranged between 2.3% and 2.5%. Among those who reported having had at least one drink in the past month, the proportion drinking and driving during that same month was estimated to be 3% and was strongly associated with total intake (Figure 4). Nevertheless, about 40% (28.2%-50.2%) of the prevalence of drinking and driving was accounted for by persons who averaged one drink per day or fewer during the previous month.

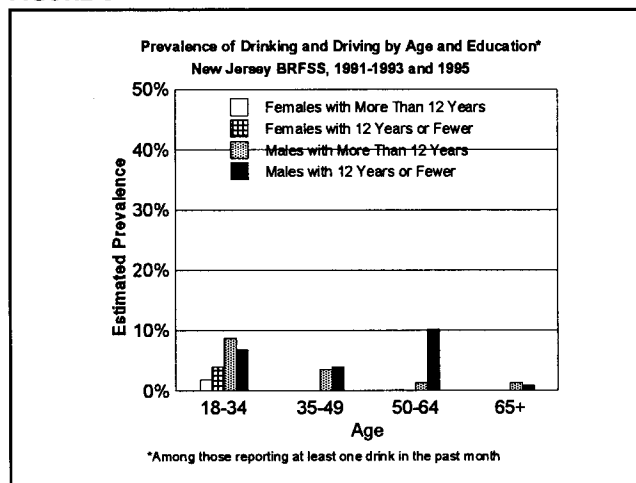
FIGURE 4



The estimated prevalence of drinking and driving, even among drinkers, tends to decline with age, with males accounting for nearly all self-reported drinking and driving

particularly in older age groups. Multivariable analyses suggest that there is also an increased tendency towards self-reported drinking and driving among adults who are unmarried or divorced, independent of age and gender. However, there is no evidence of a consistent association with education level (Figure 5).

FIGURE 5



Data from the special supplemental New Jersey LAB (regional) BRFSS survey conducted in 1993 suggest that an additional 2% of those adults who were not involved in drinking and driving during a given month nevertheless exposed themselves to risk by riding with a driver "who has had perhaps too much to drink". An estimated 40% of these persons were female.

Bicycle Helmet Use (in Children)

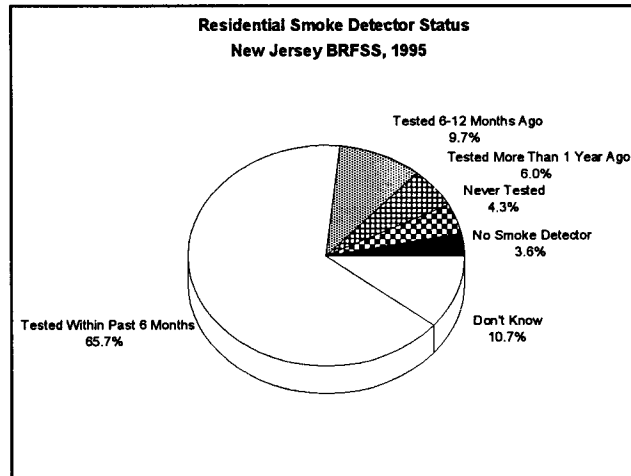
Bicycle-related injuries are responsible for about 1,000 hospitalizations per year in New Jersey, about one-third of which involve traumatic brain injury (Center for Health Statistics, unpublished data). Bicycle helmets have been shown to be highly effective in reducing the probability of severe brain injury among pedal cyclists in the event of a crash¹⁵. Among parents of children aged 5-15 in New Jersey, about half (43.4%-55.4%) report that their oldest child in this age group always wears a bicycle helmet when riding on a bicycle, based on 1995 BRFSS data. This compares favorably with the median value of 19.0% reported for all states in 1995⁷.

Testing of Smoke Detectors

Most fire-related injuries and deaths in New Jersey are due to residential fires¹⁶. Working smoke detectors have been shown to be effective in reducing the number of fatal injuries due to residential fires¹⁷. Estimates from the 1995 New Jersey BRFSS suggest that about 4% of New Jersey adults live in households without a smoke detector and an additional 20% (17.4%-22.6%) live in households in which the smoke detector(s) have not been tested within the past 6 months. However, such inferences are complicated by the fact that a large percentage of respondents - particularly high school graduates without further education - indicated they

did not know the status of smoke detectors in their place of residence (Figure 6).

FIGURE 6



Firearm Safety

According to data from the 1995 New Jersey BRFSS, the estimated prevalence of adults living in households with firearms in 1995 was 12% (10.3%-14.7%). Of those adults who reported having firearms in the home, about 30% (20.1%-37.1%) were living in households with loaded firearms and about 1% were carrying one or more loaded firearms in their car. About half (39.1%-73.8%) of persons reporting loaded firearms in their home in 1995 said the firearms were not locked up, according to the BRFSS.

*Numbers in parentheses represent approximate 95% confidence intervals for the underlying population-based statistics, taking into account the random error introduced by sampling. These confidence intervals were calculated from variance estimates generated by the statistical software package SUDAAN, used for surveys such as the BRFSS which incorporate complex sampling designs¹⁸.

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